Reply Dated July 31, 2003
Serial No. 09/740,052

REMARKS

Reconsideration of the rejections set forth in the office action is respectfully requested in view of the foregoing amendments and following remarks. By this amendment, claims 1, 3, 5, 8, 9, 10, 12, 14, 17, and 18 have been amended. Currently, claims 1, 3-10, and 12-18 are pending in this application.

Examiner Duong is thanked for the courtesies extended during the telephone interviews on July 8, 2003, and July 15, 2003. During the interviews the rejections of the claims over Ma (U.S. Patent No. 5,953,338) and Arrow (U.S. Patent No. 6,175,917) were discussed, as were the differences between the combination of Ma and Arrow and the present claims. Specifically, during the interview, applicant pointed out that Ma and Arrow both related to constructs on the network that could be used by the network provider to establish tunnels on behalf of a subscriber. For example, Ma teaches a way for the network provider to adjust the bandwidth of tunnels it has provided to customers, and Arrow teaches a way for the network provider to provision tunnels on behalf of the customers. The claims of this application, by contrast, relate to how to use the VPN resources after they have been provided to a subscriber. The Examiner suggested the claims be amended (as done by applicant in this Amendment) to clarify the claim language.

1. Ma does not teach a VPN server

As discussed in the interview, Ma teaches a network device that sits in the middle of the network and dynamically controls bandwidth assigned to VPN virtual channels, virtual paths, and groups of virtual paths. Ma does not teach a device which connects to the end of a VPN tunnel, such as the VPN server set forth in the claims.

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Ma discloses a system for allocating bandwidth on an ATM switch to enable the ATM switch to enforce service level agreements with subscribers on the network. (Cols. 1 and 2). A process, referred to as Connection Admission Control (CAC) is used to determine if the ATM switch and physical interfaces can support a requested virtual channel connection. (Col. 2, lines 24-29).

In the ATM network of Ma, virtual channel connections can only exist over virtual paths in the ATM network. (Col. 2, lines 33-34). A virtual path is thus a bundle of virtual channels. Virtual paths may also be grouped into groupings of virtual paths. (Col. 3, lines 27-30, and 42-45).

In this framework, Ma teaches a central control module that has the ability to manage these virtual paths and/or virtual channels on the network by dynamically controlling the assigned parameters, e.g. bandwidth, of the virtual channels or virtual paths. (Col. 3, lines 31-45). It does so to balance the needs of some clients against the needs of other clients who also have service level agreements on the network, to attempt to provide each client with the level of service specified in its contract agreement (see col. 7,lines 39-53, and Fig. 8).

Accordingly, Ma teaches a construct that sits in the middle of the network and dynamically adjusts the bandwidth to be provided to subscribers depending on network conditions, usage, etc., to try to allow all subscribers to have the amount of bandwidth for which they have paid. Ma does not attempt to teach or suggest how a client device should use the bandwidth once it has been provided by the network provider (Col. 8, lines 5-6):

> Clients using the virtual private networks are responsible for accepting or rejecting calls when the virtual path network is in the overload condition. Clients of the virtual private network are also responsible for prioritizing their own calls. For example, in an overload condition, one client may decide to drop calls using a first-in-first-out basis, while another client may decide to drop a data application call to accommodate a voice call.

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Accordingly, applicants respectfully submit that Ma fails to teach or suggest a VPN server or a

network device that performs the functions of a VPN server, as set forth in the claims..

2. A person of ordinary skill in the art would not import the functions of Ma into a VPN server

The Examiner has agreed in the office action that Ma fails to teach that the server is a

VPN server configured to at least one of authenticate, encapsulate, and de-encapsulate at least a

portion of the packets. The Examiner has taken the position, however, that it would have been

obvious to combine Ma with a VPN server. Applicants respectfully disagree.

Ma teaches a device that sits in the middle of the network and is configured to adjust

bandwidth provided to network subscribers. This is very different than a device that sits on the

end of a VPN tunnel and is configured to manage bandwidth on the VPN tunnel. Applicants

respectfully submit that a person of ordinary skill in the art would not be motivated to utilize

teachings of Ma in a VPN server context given the disparate places the network devices are used

in the network and the disparate functions the network devices are to perform.

3. Arrow does not teach a VPN server

Arrow teaches a VPN management station 160 that is configured to install VPN

parameters on VPN units to enable them to engage each other over VPN tunnels through the

network. Arrow thus sits in the middle of the network and provisions VPN tunnels on behalf of

subscribers by interfacing with the end units on the network. Arrow has nothing to do with

controlling the type or amount of traffic particular applications will later put through the VPN

tunnels once the VPN tunnels have been established.

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The Examiner has taken the position that Arrow discloses a data communication system comprising a VPN management station 160 configured for authentication, encryption, and compression of packets. As support for this position, the Examiner has cited Fig. 13, and col. 15, lines 52-55. Applicants respectfully submit that the VPN management station 160 is not a VPN server that is configured to perform authentication, encryption, and/or compression of packets.

Fig. 13, cited by the Examiner, is described by Arrow as "a flow chart illustrating some of the operations performed by a VPN system manager to create a VPN in accordance with an embodiment of the present invention. (Col. 15, lines 29-32). Col. 15, lines 52-55, cited by the Examiner, states "In state 1310, the system manager defines VPN parameters for authentication, encryption, and compression functions to be associated with a newly created VPN." When read in context, it is clear that the VPN management station 160 is defining many parameters that will be associated with one or more VPN units to enable the VPN units to participate in VPN tunnels on the network. Thus, Arrow is clear that the VPN management station 160 is not defining these parameters for itself. Rather, the VPN management station 160 is setting up VPN tunnels for VPN units on the network, and one of the tasks it must do to set up a VPN tunnel is to define authentication, encryption, and compression functions to be used by the end units to that tunnel.

4. Combining Ma and Arrow would not have met all limitations of the claims

The Examiner has taken the position that it would have been obvious to include the VPN management station as taught by Arrow in Ma's system to protect and prevent unauthorized access of data traversing over public networks. Applicants respectfully submit that even if Ma and Arrow were combined, they would not meet the limitations of the claims.

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Specifically, as discussed above, Arrow's system allows an ISP or other provider to provision VPNs on behalf of clients. Ma enables an ISP to set up and dynamically change the bandwidth provisioned through VPN circuits and paths that have been established through the network. Combining these two systems would allow an ISP or other network service provider to set up a VPN tunnel on behalf of clients, and dynamically alter the amount of bandwidth provided to that tunnel through the network. The combination would not teach or suggest anything, however, about how the client should go about allocating the resource that has been provided by the network provider, or how the bandwidth should be used by internal applications that may be contending for access to the bandwidth that has been provided by the ISP.

The combination of Arrow and Ma fails to teach or suggest a VPN server that meters packets belonging to an application group. Ma allows routers and switches on the network to alter the amount of bandwidth provided to a given VPN circuit/path/path group, but does not teach a VPN server that meters packets belonging to an application group. Arrow fails to make up this deficiency. Specifically, the VPN management station 160 in Arrow does not meter packets but rather interfaces with VPN servers to enable them to set up VPN tunnels through the network.

5. The independent claims reflect the differences between Ma, Arrow, and the combination of Ma and Arrow

During the interview applicants discussed possible amendments with the Examiner that could be used to clarify the differences between the present invention and the art cited by the Examiner. The Examiner suggested that Independent claim 1 be amended to recite in the preamble that the method is for a VPN server, and that applicant clarify that the VPN server is performing the acts of assigning and metering packets. Applicants have amended independent

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claim 1 as suggested by the Examiner and have made similar amendments to the other

independent claims. Applicants respectfully submit that these claims are now patentable over the

art of record and respectfully request that they be allowed.

Applicants note that these amendments are merely making explicit that which was

already stated in the claim. Accordingly, the claim amendments are not narrowing amendments.

Because the combination of Arrow and Ma fail to teach or suggest the limitations of

claim 1, applicants respectfully request that the rejection of claim 1 under 35 U.S.C. 103 be

withdrawn. Independent claims 3, 5, 8, 9, 10, 12, 14, 17, and 18, contain similar limitations and

are therefore patentable for at least the same reasons.

Conclusion

In view of foregoing claim amendments and remarks, it is respectfully submitted that the

application is now in condition for allowance and an action to this effect is respectfully

requested. If there are any questions or concerns regarding the amendments or these remarks,

the Examiner is requested to telephone the undersigned at the telephone number listed below.

If any fees are due in connection with this filing, the Commissioner is hereby authorized

to charge payment of the fees associated with this communication or credit any overpayment to

Deposit Account No. 502246 (Ref: NN-13361).

Respectfully Submitted

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